

What is claimed is:

1        1. A data broadcast receiving apparatus for receiving  
2        broadcast data that includes a plurality of data modules which  
3        are linked by link information, comprising:

4              module storing means for selectively storing data modules  
5        included in the received broadcast data;

6              user indication accepting means for accepting an indication  
7        from a user; and

8              reproducing means for  
9              (a) judging whether a target data module which is specified  
10        in accordance with the user indication and the link information  
11        is stored in the module storing means,

12              (b) when the target data module is stored in the module  
13        storing means, reading the target data module from the module  
14        storing means, and reproducing and outputting the read target  
15        data module, and

16              (c) when the target data module is not stored in the module  
17        storing means, outputting first information for informing the  
18        user that the target data module is not stored.

1        2. The data broadcast receiving apparatus of Claim 1,  
2        wherein the reproducing means includes:

3           a judging unit for judging whether the target data module is  
4        stored in the module storing means; and  
5           an informing unit for outputting the first information when  
6        the target data module is not stored in the module storing  
7        means.

1           3. The data broadcast receiving apparatus of Claim 2, further  
2        comprising

3           storage information storing means for storing storage  
4        information for each of the plurality of data modules included in  
5        the broadcast data, the storage information showing whether the  
6        data module is stored in the module storing means,

7           wherein the judging unit refers to storage information of the  
8        target data module in the storage information storing means, to  
9        judge whether the target data module is stored in the module  
10      storing means.

1           4. The data broadcast receiving apparatus of Claim 3,  
2        wherein when the target data module is included in the  
3        broadcast data but is not stored in the module storing means,  
4        the storage information of the target data module shows that  
5        the target data module is not stored in the module storing means,

6 and further shows a problem because of which the target data  
7 module is not stored, and

8 the informing unit refers to the storage information of the  
9 target data module in the storage information storing means, and  
10 outputs second information for informing the user of the problem,  
11 together with the first information.

5. The data broadcast receiving apparatus of Claim 4,  
wherein the informing unit outputs third information for  
suggesting a solution for the problem to the user, together with  
the first information and the second information.

6. The data broadcast receiving apparatus of Claim 5, further  
comprising:

3 user instruction accepting means for accepting an instruction  
4 from the user to implement the solution; and  
5 solution implementing means for implementing the solution in  
6 accordance with the user instruction accepted by the user  
7 instruction accepting means.

1 7. The data broadcast receiving apparatus of Claim 2,  
2 wherein each of the plurality of data modules is made up of

3       at least one set of resource information, and

4           the judging unit judges whether all sets of resource  
5       information that make up the target data module are stored in the  
6       module storing means, in order to judge whether the target data  
7       module is stored in the module storing means,

8           wherein when any of the sets of resource information of the  
9       target data module is not stored in the module storing means,

10          the informing unit outputs the first information for  
11       informing the user that the set of resource information is not  
12       stored in the module storing means, and

13          the reproducing means reads the other sets of resource  
14       information of the target data module from the module storing  
15       means, and reproduces and outputs the other sets of resource  
16       information.

1           8. A data broadcast receiving apparatus for receiving  
2       broadcast data that includes a plurality of data modules which  
3       are linked by link information, comprising:

4           module storing means for selectively storing data modules  
5       included in the received broadcast data;

6           user indication accepting means for accepting an indication  
7       from a user; and

8           reproducing means for

9           (a) reading a target data module which is specified in  
10          accordance with the user indication and the link destination,  
11          from the module storing means, and reproducing and outputting the  
12          read target data module,

13           (b) specifying, prior to the reproduction of the target data  
14          module, data modules which are link destinations of the target  
15          data module and therefore may be indicated by the user as the  
16          next target data module, with reference to the link  
17          information,

18           (c) judging whether the link destination data modules of the  
19          target data module are all stored in the module storing means,  
20          and

21           (d) when any of the link destination data modules of the  
22          target data module is not stored in the module storing means,  
23          informing the user that the link destination data module is not  
24          stored.

1           9. The data broadcast receiving apparatus of Claim 8,

2          wherein the reproducing means includes:

3           a judging unit for specifying the link destination data  
4          modules of the target data module with reference to the link

5 information, and judging whether the link destination data  
6 modules are all stored in the module storing means; and

7 an informing unit for informing, when any of the link  
8 destination data modules is not stored in the module storing  
9 means, the user that the link destination data module is not  
10 stored.

10. The data broadcast receiving apparatus of Claim 9,  
wherein the target data module includes display objects  
corresponding to the link destination data modules, and

the informing unit informs the user that the link destination  
data module is not stored, by displaying a display object  
corresponding to the link destination data module which is not  
stored, in a different manner from the other display objects  
corresponding to link destination data modules which are  
stored.

11. The data broadcast receiving apparatus of Claim 9,  
wherein the target data module includes display objects  
corresponding to the link destination data modules, and  
the informing unit informs the user that the link destination  
data module is not stored, by not displaying a display object

6       corresponding to the link destination data module which is not  
7       stored.

1           12. The data broadcast receiving apparatus of Claim 9,  
2           wherein the target data module includes display objects  
3       corresponding to the link destination data modules, and  
4           the informing unit informs the user that the link destination  
5       data module is not stored, by flashing a display object  
corresponding to the link destination data module which is not  
stored, on and off.

1           13. The data broadcast receiving apparatus of Claim 9,  
2           wherein the informing unit informs the user that the link  
3       destination data module is not stored, by means of voice  
4       output.

1           14. A data broadcast receiving method for use in an apparatus  
2       for receiving broadcast data that includes a plurality of data  
3       modules which are linked by link information, the apparatus  
4       including a storage unit, the data broadcast receiving method  
5       comprising:

6           a module storing step for selectively storing data modules

7        included in the received broadcast data, into the storage unit;

8            a user indication accepting step for accepting an indication

9        from a user; and

10          a reproducing step for

11            (a) judging whether a target data module which is specified

12        in accordance with the user indication and the link information

13        is stored in the storage unit,

14            (b) when the target data module is stored in the storage

15        unit, reading the target data module from the storage unit, and

16        reproducing and outputting the read target data module, and

17            (c) when the target data module is not stored in the storage

18        unit, outputting first information for informing the user that

19        the target data module is not stored.

1        15. A data broadcast receiving method for use in an apparatus

2        for receiving broadcast data that includes a plurality of data

3        modules which are linked by link information, the apparatus

4        including a storage unit, the data broadcast receiving method

5        comprising:

6            a module storing step for selectively storing data modules

7        included in the received broadcast data, into the storage unit;

8            a user indication accepting step for accepting an indication

9           from a user; and

10            a reproducing step for

11               (a) reading a target data module which is specified in

12               accordance with the user indication and the link destination,

13               from the storage unit, and reproducing and outputting the read

14               target data module,

15               (b) specifying, prior to the reproduction of the target data

16               module, data modules which are link destinations of the target

17               data module and therefore may be indicated by the user as the

18               next target data module, with reference to the link

19               information,

20               (c) judging whether the link destination data modules of the

21               target data module are all stored in the storage unit, and

22               (d) when any of the link destination data modules of the

23               target data module is not stored in the storage unit, informing

24               the user that the link destination data module is not stored.

1           16. The data broadcast receiving method of Claim 15,

2           wherein the reproducing step includes:

3            a judging substep for specifying the link destination data

4           modules of the target data module with reference to the link

5           information, and judging whether the link destination data

6 modules are all stored in the storage unit; and  
7 an informing substep for informing, when any of the link  
8 destination data modules is not stored in the storage unit, the  
9 user that the link destination data module is not stored.

1 17. The data broadcast receiving method of Claim 16,  
2 wherein the target data module includes display objects  
3 corresponding to the link destination data modules, and  
4 the informing substep informs the user that the link  
5 destination data module is not stored, by displaying a display  
6 object corresponding to the link destination data module which is  
7 not stored, in a different manner from the other display objects  
8 corresponding to link destination data modules which are  
9 stored.

1 18. The data broadcast receiving method of Claim 16,  
2 wherein the target data module includes display objects  
3 corresponding to the link destination data modules, and  
4 the informing substep informs the user that the link  
5 destination data module is not stored, by not displaying a  
6 display object corresponding to the link destination data module  
7 which is not stored.

1           19. The data broadcast receiving method of Claim 16,  
2           wherein the target data module includes display objects  
3           corresponding to the link destination data modules, and  
4           the informing substep informs the user that the link  
5           destination data module is not stored, by flashing a display  
6           object corresponding to the link destination data module which is  
not stored, on and off.

1           20. The data broadcast receiving method of Claim 16,  
2           wherein the informing substep informs the user that the link  
3           destination data module is not stored, by means of voice  
output.

1           21. A computer-readable recording medium recording a program  
2           for use in an apparatus for receiving broadcast data that  
3           includes a plurality of data modules which are linked by link  
4           information, the apparatus including a storage unit, the program  
5           comprising:

6           a module storing step for selectively storing data modules  
7           included in the received broadcast data, into the storage unit;  
8           a user indication accepting step for accepting an indication

9       from a user; and

10            a reproducing step for

11              (a) judging whether a target data module which is specified

12              in accordance with the user indication and the link information

13              is stored in the storage unit,

14              (b) when the target data module is stored in the storage

15              unit, reading the target data module from the storage unit, and

16              reproducing and outputting the read target data module, and

17              (c) when the target data module is not stored in the storage

18              unit, outputting first information for informing the user that

19              the target data module is not stored.

22. A computer-readable recording medium recording a program  
for use in an apparatus for receiving broadcast data that  
includes a plurality of data modules which are linked by link  
information, the apparatus including a storage unit, the program  
comprising:

6        a module storing step for selectively storing data modules  
7        included in the received broadcast data, into the storage unit;

8        a user indication accepting step for accepting an indication  
9        from a user; and

10          a reproducing step for

11                 (a) reading a target data module which is specified in  
12                 accordance with the user indication and the link destination,  
13                 from the storage unit, and reproducing and outputting the read  
14                 target data module,

15                 (b) specifying, prior to the reproduction of the target data  
16                 module, data modules which are link destinations of the target  
17                 data module and therefore may be indicated by the user as the  
18                 next target data module, with reference to the link  
19                 information,

20                 (c) judging whether the link destination data modules of the  
21                 target data module are all stored in the storage unit, and

22                 (d) when any of the link destination data modules of the  
23                 target data module is not stored in the storage unit, informing  
24                 the user that the link destination data module is not stored.